We claim:

1. A method of producing human pluripotent stem cells from human adult somatic cells comprising treating said adult somatic cells with an agent that promotes cellular reprogramming.

2. The method of claim 1 wherein the agent promotes the demethylation of nucleic acids, the deacetylation of histone proteins, the exchange of histones for HMG1, or the arrest of cells in metaphase.

3. The method of claim 2 wherein the agent is selected from the list consisting of 5-aza-2'-deoxycytidine, trichostatin A, a nucleoplasmin and a G2/M cyclin.

4. The method of claim 3 further comprising treating said adult somatic cells with 5-aza-2'-deoxycytidine, trichostatin A and Tat-cyclin B.

5. The method of claim 1 wherein the adult somatic cell is a keratinocyte.

6. The method of claim 2 wherein the adult somatic cell is a keratinocyte.

7. The method of claim 3 wherein the adult somatic cell is a keratinocyte.

8. The method of claim 4 wherein the adult somatic cell is a keratinocyte.

9. The method of claim 1 wherein the human pluripotent stem cells express a telomerase gene and are capable of differentiating into a derivative of any germ layer.

10. A method of treating a human subject comprising (a) producing human pluripotent stem cells from human adult somatic cells comprising treating said adult somatic cells with an agent that promotes cellular reprogramming; and (b) administering said human pluripotent stem cells to the subject wherein the subject suffers from a degenerative disease.

11. The method of claim 10 wherein the degenerative disease is selected from the list consisting of stroke, Alzheimer's disease Parkinson's disease, multiple sclerosis, Amyotrophic lateral sclerosis, macular degeneration, osteolytic diseases such as osteoporosis, osteoarthritis, bone fractures, bone breaks, diabetes, liver injury and disease, myocardial infarct, burns an cancer.

12. The method of claim 11 wherein the degenerative disease is diabetes.

13. The method of claim 10 wherein the cells are genetically modified.

14. The method of claim 11 wherein the cells are genetically modified.

15. The method of claim 12 wherein the cells are genetically modified.

16. The method of claim 11 wherein said human pluripotent stem cells are further treated with a morphogenic growth factor.

17. The method of claim 12 wherein said human pluripotent stem cells are further treated with a morphogenic growth factor.

18. The method of claim 13 wherein said human pluripotent stem cells are further treated with a morphogenic growth factor.

19. The method of claim 15 wherein said human pluripotent stem cells are further treated with a morphogenic growth factor.

20. A method of producing ex vivo a tissue or organ for implantation into a human subject comprising (a) producing human pluripotent stem cells from human adult somatic cells comprising treating said adult somatic cells with an agent that promotes cellular reprogramming, (b) treating said human pluripotent stem cells with a morphogenic growth factor to produce differentiated cells, and (c) culturing the differentiated cells on an engineered surface.